

Petriman, Viorica

From: Petriman, Viorica
Sent: Thursday, July 31, 2014 3:17 PM
To: tlmarr@gw.dec.state.ny.us; Robert Stanton; Christopher LaLone;
djshaw@gw.dec.state.ny.us
Cc: Dan E Walsh
Subject: Greenidge Generating Station Reactivation
Attachments: EPA Comment Letter- Greenidge Reactivation .pdf

Please find attached the EPA's Comment Letter related to the Reactivation of the Greenidge Generating Station.

Viorica Petriman
Environmental Engineer
US EPA –Region 2
Air Permitting Section
212-637-4021



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 2
290 BROADWAY
NEW YORK, NY 10007-1866

JUL 31 2014

Mr. Thomas Marriott
Regional Air Pollution Control Engineer
New York State Department of Environmental Conservation, Region 8
6274 East Avon-Lima Road
Avon, NY 14414

RE: PSD Applicability to the Reactivation of Greenidge Generating Station, located in
Dresden, Yates County, New York

Dear Mr. Marriott:

Thank you for the opportunity to review the documents related to the Greenidge Generating Station (Greenidge or facility), which the U.S. Environmental Protection Region 2 Office received on June 23, and 24, and July 1 and 2, 2014. These documents include an evaluation by Atlas Holdings LLC (Atlas), the current owner of Greenidge Atlas, of the applicability of the Prevention of Significant Deterioration (PSD) regulations to the reactivation of Greenidge, the title V application, as well as other correspondence related to the facility. Greenidge has been shut down since March 18, 2011, and, now, Atlas wishes to reactivate the facility. Greenidge is a coal-fired electric generating unit, which consists of a 1953 tangentially fired dry bottom pulverized coal-fired boiler (boiler), as the main emission source, and other, auxiliary, emission sources. The boiler is rated at 1,117 million British Thermal Units (MMBTU) and 109 megawatts (MW) gross power output. Based on the documents provided to us, it is our understanding that at the time of shutdown, Greenidge was a major source for the purposes of both PSD and Nonattainment New Source Review (NNSR) regulations; however, thus far, no PSD or NNSR permit was issued to Greenidge.

EPA has reviewed the documents provided and believes that Atlas should address the following issues, in order for the New York State Department of Environmental Conservation (NYSDEC) to determine whether reactivation of Greenidge would constitute a major modification under PSD rules. Further, for the reasons discussed below, we recommend that NYSDEC Region 8 take no final action on the Greenidge's title V permit until such time that the matters identified below are addressed, thus ensuring that all applicable requirements of the Clean Air Act are met.

1. Proposed NO_x Emission Limits, Actual NO_x Emissions, and Compliance with the New York's RACT NO_x Emission Limit

The NO_x emission limits for the Greenidge boiler, expressed as pounds per MMBTU (lb/MMBTU), which are proposed in the title V application are: (1) 0.42 lb/MMBTU, for gross power output of less than or equal to 42 MW; 0.35 lb/MMBTU, for gross power output of

greater than 42 MW and less or equal to 52 MW; 0.28 lb/MMBTU, for gross power output of greater than 52 MW and less or equal to 68 MW; and 0.17 lb/MMBTU, for gross power output of greater than 68 MW. All the above-listed limits are provided for a 30-day rolling averaging period.

EPA notes that the above proposed NO_x emissions limit do not comply with the 6 NYCRR Subpart 227-2 Reasonably Available Control Technology (RACT) NO_x emission limit of 0.12 lb/MMBTU. Moreover, as discussed below, our review of the available information indicates that, in fact, before the shutdown, the actual NO_x emission from the Greenidge's boiler exceeded the 0.12 lb/MMBTU.

- Based on the EPA's Clean Air Markets-Air Markets Program Data¹ the actual NO_x emissions rates (measured by continuous emission monitoring system: CEMS), which were reported by AES Greenidge LLC (the owner of Greenidge at that time), for the Greenidge's boiler were as follows: of 0.2 lb/MMBTU for 2007, 0.17 lb/MMBTU for 2008, 0.17 lb/MMBTU for 2009, 0.2 lb/MMBTU for 2010, and 0.25 lb/MMBTU for 2011². EPA notes that the above-listed actual NO_x emissions exceed the NO_x RACT emission limit of 0.12 lb/MMBTU.
- Additionally, based on the U.S. Department of Energy (DOE)'s "Greenidge Multi-Pollutant Control Project Final Report of Work Performed, May 19, 2006-October 18, 2008", dated April 2009³, the average actual NO_x emission rates (measured by CEMS), during August 2007-September 2008, were as follows: 0.14 lb/MMBTU, at boiler loads (gross power output) above 69 MW, and 0.15 lb/MMBTU across all boiler loads, which are equal to and greater than 42 MW. Further, the DOE data indicates that the NO_x emission rate (lb/MMBTU) is a function of the gross power output; at a gross power output below 69 MW, the NO_x emission rates could be significantly higher than the NO_x emission rates at a gross power output above 69 MW. As shown above, the DOE actual NO_x emission rates exceed the NO_x RACT emission limit of 0.12 lb/MMBTU.
- Furthermore, as stated by AES in its correspondence to DEC, dated October 17, 2007 and November 21, 2007⁴, it appears that the actual NO_x emission rate that was "consistently" achieved by Greenidge's boiler, at high loads, was only 0.15 lb/MMBTU. EPA notes that AES's reported actual NO_x emission rate of 0.15 lb/MMBTU is higher than the NO_x RACT emission limit of 0.12 lb/MMBTU.

In conclusion, since, as discussed above, it appears that neither the proposed NO_x emission limit of the Greenidge's boiler nor the actual NO_x emission comply with the NO_x RACT emission

¹ EPA's Clean Air Markets-Air Markets Program Data could be found <http://www.epa.gov/airmarkets/>

² Enclosure 1 contains the EPA's Clean Air Markets-Air Markets Program Data's Emissions-Unit Level Data Reports for the years 2007 through 2011

³ The DOE report could be found at http://www.alrc.doe.gov/technologies/coalpower/cctc/PP11/bibliography/demonstration/environmental/bib_greenidge.html. EPA notes that the NO_x air pollution control systems for the Greenidge's coal-fired boiler NO_x emissions, respectively, the selective catalytic reduction system (SCR), and the selective non-catalytic reduction system (SNCR) were installed at the facility in 2006 as part of the U.S. Department of Energy (DOE) Clean Coal Technology Program.

⁴ See Enclosure 2

limit, Atlas, should, either revise its title V application by providing the specific strategies the plant will use to demonstrate compliance with the 0.12 lb/MMBTU NO_x RACT limit, or submit an application for an emission source-specific limit. In either case, EPA suggests that any modification that would be employed by the facility, in order to comply with the NO_x RACT requirements, should be examined by Atlas in order to determine whether a physical change or a change in the method of operation would occur under the PSD regulations.

2. Proposed NO_x Emission Limits for Various Operating Loads

As discussed above, Atlas, in its title V application proposes NO_x emission limits, expressed as lb/MMBTU, on a 30-day rolling average basis for a variety of operating loads (gross power output). However, based on our review, it appears that there are no restrictions proposed in the title V application that would prevent the boiler from operating at various loads during a 30-day rolling period. Thus, given the possible fluctuations of the gross power output during a 30-day rolling period, it is unclear to us whether the NO_x emission limits, as proposed, based on a 30-day rolling average period, are practically enforceable. Consequently, the facility should: (1) explain how the 30-day rolling average NO_x limit would be computed, and (2) provide a demonstration that the proposed 30-day rolling average NO_x emission limitations are practically enforceable.

3. Coal-Fired Boiler: From Base Load to Peaking Unit

In its March 14, 2013 letter to DEC, Atlas stated that, while Greenidge, before shutdown, was operated as a base load unit, after reactivation Atlas plans to operate Greenidge as a peaking unit.⁵ Furthermore, the proposed NO_x emission limits for various loads (see 1 and 2 above), may suggest that Atlas intends to operate the boiler as a cycling unit. Nevertheless, based on our review, it seems that Atlas' documents do not contain any discussion related to the design and operational modification that would be needed in order to enable the operational flexibility necessary for cycling and for peaking mode. Therefore, EPA recommends that Atlas identify the improvements and modifications which would be required for its boiler in order to match the new operational profiles, specifically, operation as a cycling and or peaking unit, and provide a discussion as to whether those changes would be considered physical changes or changes in the method of operation under the PSD regulations.

Furthermore, since cycling operation may affect the performance and reliability of the pollution control equipment, including the NO_x and SO₂ controls, Atlas should provide information concerning the cycling loads emissions, and mitigate and explore options to minimize the impacts on the operation and performance of the pollution control equipment at cycling loads.

⁵ The following statements were made by Atlas, in its March 14, 2013 letter to DEC: "*In its last few years of operation, Greenidge operated as a base load facility with a capacity factor of approximately 55-75%. In comparison, Atlas currently plans to operate the facility [Greenidge] as a peaking unit with a capacity factor of less than 50 %.*", and, "*As mentioned above, Atlas and GMMM are in the process of finalizing an agreement for Atlas to purchase the facility and operate it as a peaking unit.*"

In addition, since operating a coal-fired boiler electric generating unit, such as Greenidge's boiler, as a base load unit it is more efficient⁶ than operating the boiler as a load-cycling unit, Atlas should examine the performance of Greenidge under varying load output conditions, especially with regard to the facility's emissions rates.

4. Rehabilitation Work Necessary to Reactivate Greenidge

We recommend that the following should be addressed by Atlas regarding its list containing the rehabilitation work necessary to reactivate Greenidge, which DEC staff has provided to us on July 1, 2014:

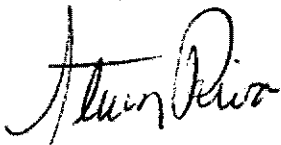
- o An explanation of the nature of the work that is included in the list as "4. Control Systems/4.1.Distributed Control System (DCS) Software Upgrade". Is this work necessary for providing the coal-fired boiler flexibility to operate as a peaking unit?
- o The facility should confirm whether the above-referenced list represents the final version of its rehabilitation work list. In the event this is not the final list, the facility should provide a revised list, as soon as possible.

5. Other Issues

As requested by you, during our July 23, 2014 conference call, we are enclosing information (See Enclosure 3) regarding an air permit issued for a New Jersey facility, which operates a coal-fired boiler controlled by SCR and SNCR, and which is permitted at 0.1 lb of NO_x/MMBTU (based on 30-day rolling average) and 0.15 lb of NO_x/MMBTU (based on 24-hour block average). Finally, we note that NYSDEC is already evaluating whether the facility's plans constitutes reactivation of a permanently shutdown facility that should be treated as operation of a new source for PSD review. As such, we have not addressed the reactivation issue in this letter.

If you have any questions or wish to discuss specific issues regarding this letter, please contact me at (212) 637-4074, or have your staff contact Ms. Viorica Petriman at (212) 637-4021.

Sincerely,



Steven C. Riva, Chief
Permitting Section
Air Programs Branch

⁶ The coal-fired boilers' efficiency is often measured by the heat rate-the amount of heat input, in MMBTU, required to generate one MW-hour (MWh) of electricity. A lower heat rate represents a more efficient unit. The heat rate is higher at low loads (low power output) and it is lower at high loads (high power output). A high efficiency has the co-benefit of reducing the emissions resulting from an electric generating unit, including coal-fired boilers. This is because less fuel is required for generating the same amount of electricity; combusting less fuel would result in lower level of air pollutants.

Enclosures: 3

1. EPA's Clean Air Markets-Air Markets Program Data
2. AES Correspondence to DEC
3. New Jersey Coal-Fired Boiler facility Air permit information

cc: Robert Stanton (e-mail w/enclosures)
Director, Bureau of Stationary Source
Division of Air Resources, NYSDEC
625 Broadway
Albany, NY 12233-3258

David Shaw (e-mail w/enclosures)
Director, Division of Air Resources
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Christopher LaLone (e-mail w/enclosures)
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NYSDEC, Bureau of Stationary Sources
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NYSDEC- Region 8
Division of Environmental Permits
6274 East Avon Lima Road
Avon, NY 14414-9519



Emissions - Unit Level Data Report

Jul 24, 2014

Your query will return 1 Facility(s) and 3 Unit(s)

Program: All Programs

Data Set: Emissions - Unit Level Data

Time Frame: Emissions :

Annual : 2007

Facility Attributes : 2014, 2013, 2012, 2011, 2010, 2009, 2008, 2007, 2006, 2005, 2004, 2003, 2002, 2001, 2000, 1999, 1998, 1997, 1996, 1995, 1990, 1985, 1980

Criteria: Facility Name/ID : Greenidge Generation LLC

Aggregate Criteria: No Aggregation (Unit Level)

Columns: State, Facility Name, Facility ID (ORISPL), Unit ID, Year, Operating Time, # of Months Reported

Record Number	State	Facility Name	Facility ID (ORISPL)	Unit ID	Year	Operating Time	# of Months Reported
1	NY	Greenidge Generation LLC	2527	4	2007	1,141	12
2	NY	Greenidge Generation LLC	2527	5	2007	1,152	12
3	NY	Greenidge Generation LLC	2527	6	2007	7,878	12

Columns: Gross Load (MW-h), Steam Load (1000lb), SO2 (tons), Avg. NOx Rate (lb/MMBtu), NOx (tons), CO2 (short tons), Heat Input (MMBtu)

Record Number	Gross Load (MW-h)	Steam Load (1000lb)	SO2 (tons)	Avg. NOx Rate (lb/MMBtu)	NOx (tons)	CO2 (short tons)	Heat Input (MMBtu)
1		243,626	398.4	0.65	90.3	27,984.4	272,758
2		225,202	351.3	0.65	82.1	25,605	249,568
3	713,361		2,332.5	0.2	673.8	726,877.6	7,082,666

ENCLOSURE 1

Columns: EPA Region, County, Owner, Operator, SO2 Phase, NOx Phase, Operating Status

Record Number	EPA Region	County	Owner	Operator	SO2 Phase	NOx Phase	Operating Status
1	2	Yates	AEE 2, LLC	AES Corporation	Phase 2	Phase II Group 1	Operating
2	2	Yates	AES Corporation	AES Corporation	Phase 2	Phase II Group 1	Operating
3	2	Yates	AEE 2, LLC	AES Corporation	Table 1	Phase 1 Group 1	Operating

Columns: Unit Type, Fuel Type (Primary), Fuel Type (Secondary), SO2 Control(s), NOx Control(s), PM Control(s)

Record Number	Unit Type	Fuel Type (Primary)	Fuel Type (Secondary)	SO2 Control(s)	NOx Control(s)	PM Control(s)
1	Dry bottom wall-fired boiler	Coal	Residual Oil			Electrostatic Precipitator
2	Dry bottom wall-fired boiler	Coal	Residual Oil			Electrostatic Precipitator
3	Tangentially-fired	Coal	Residual Oil	Dry Lime FGD (Began May 29, 2007)	Low NOx Burner Technology w/ Closed-coupled OFA (Began May 29, 2007) Selective Catalytic Reduction (Began May 29, 2007)	Electrostatic Precipitator Baghouse (Began May 29, 2007)



Emissions - Unit Level Data Report

Jul 24, 2014

Your query will return 1 Facility(s) and 3 Unit(s)

Program: Acid Rain Program (ARP)

Data Set: Emissions - Unit Level Data

Time Frame: Emissions :
Annual : 2008

Criteria: Facility Name/ID : Greenidge Generation LLC

Aggregate Criteria: No Aggregation (Unit Level)

Columns: State, Facility Name, Facility ID (ORISPL), Unit ID, Associated Stacks, Year, Program(s)

Record Number	State	Facility Name	Facility ID (ORISPL)	Unit ID	Associated Stacks	Year	Program(s)
1	NY	Greenidge Generation LLC	2527	4	CSG003	2008	ARP
2	NY	Greenidge Generation LLC	2527	5	CSG003	2008	ARP
3	NY	Greenidge Generation LLC	2527	6		2008	ARP

Columns: SO₂ (tons), Avg. NO_x Rate (lb/MMBtu), NO_x (tons), CO₂ (short tons), Heat Input (MMBtu), Operating Time, # of Months Reported

Record Number	SO ₂ (tons)	Avg. NO _x Rate (lb/MMBtu)	NO _x (tons)	CO ₂ (short tons)	Heat Input (MMBtu)	Operating Time	# of Months Reported
1	177	0.58	37.6	12,798	124,713	1,139	12
2	200.9	0.58	43.6	14,887	145,073	1,307	12
3	447.9	0.17	539.3	688,271.2	6,707,595	8,447	12

ENCLOSURE 1

Columns: Gross Load (MW-h), Steam Load (1000lb), EPA Region, County, Source Category, Owner, Operator

Record Number	Gross Load (MW-h)	Steam Load (1000lb)	EPA Region	County	Source Category	Owner	Operator
1		175,755	2	Yates	Electric Utility	AES Corporation	AES Corporation
2		206,479	2	Yates	Electric Utility	AES Corporation	AES Corporation
3	731,082		2	Yates	Electric Utility	AES Corporation	AES Corporation

Columns: SO2 Phase, NOx Phase, Operating Status, Unit Type, Fuel Type (Primary), Fuel Type (Secondary), SO2 Control(s)

Record Number	SO2 Phase	NOx Phase	Operating Status	Unit Type	Fuel Type (Primary)	Fuel Type (Secondary)	SO2 Control(s)
1	Phase 2	Phase II Group 1	Operating	Dry bottom wall-fired boiler	Coal	Residual Oil	
2	Phase 2	Phase II Group 1	Operating	Dry bottom wall-fired boiler	Coal	Residual Oil	
3	Table 1	Phase 1 Group 1	Operating	Tangentially-fired	Coal	Residual Oil	Dry Lime FGD

Columns: NOx Control(s), PM Control(s)

Record Number	NOx Control(s)	PM Control(s)
1		Electrostatic Precipitator
2		Electrostatic Precipitator
3	Low NOx Burner Technology w/ Closed-coupled OFA Selective Catalytic Reduction	Electrostatic Precipitator Baghouse



Emissions - Unit Level Data Report

Jul 24, 2014

Your query will return 1 Facility(s) and 3 Unit(s)

Program: Acid Rain Program (ARP)

Data Set: Emissions - Unit Level Data

Time Frame: Emissions :
Annual : 2009

Criteria: Facility Name/ID : Greenidge Generation LLC

Aggregate Criteria: No Aggregation (Unit Level)

Columns: State, Facility Name, Facility ID (ORISPL), Unit ID, Associated Stacks, Year, Program(s)

Record Number	State	Facility Name	Facility ID (ORISPL)	Unit ID	Associated Stacks	Year	Program(s)
1	NY	Greenidge Generation LLC	2527	4	CSG003	2009	ARP
2	NY	Greenidge Generation LLC	2527	5	CSG003	2009	ARP
3	NY	Greenidge Generation LLC	2527	6		2009	ARP

Columns: SO₂ (tons), Avg. NO_x Rate (lb/MMBtu), NO_x (tons), CO₂ (short tons), Heat Input (MMBtu), Operating Time, # of Months Reported

Record Number	SO ₂ (tons)	Avg. NO _x Rate (lb/MMBtu)	NO _x (tons)	CO ₂ (short tons)	Heat Input (MMBtu)	Operating Time	# of Months Reported
1	23.4	0.55	5.2	1,788.1	17,429	87	12
2	20.8	0.56	4.7	1,588.2	15,484	89	12
3	371.4	0.17	361.8	452,418.8	4,409,207	6,085	12

ENCLOSURE 1

Columns: Gross Load (MW-h), Steam Load (1000lb), EPA Region, County, Source Category, Owner, Operator

Record Number	Gross Load (MW-h)	Steam Load (1000lb)	EPA Region	County	Source Category	Owner	Operator
1		15,270	2	Yates	Electric Utility	AES Corporation	AES Corporation
2		14,777	2	Yates	Electric Utility	AES Corporation	AES Corporation
3	476,354		2	Yates	Electric Utility	AES Corporation	AES Corporation

Columns: SO2 Phase, NOx Phase, Operating Status, Unit Type, Fuel Type (Primary), Fuel Type (Secondary), SO2 Control(s)

Record Number	SO2 Phase	NOx Phase	Operating Status	Unit Type	Fuel Type (Primary)	Fuel Type (Secondary)	SO2 Control(s)
1	Phase 2	Phase II Group 1	Operating	Dry bottom wall-fired boiler	Coal	Residual Oil	
2	Phase 2	Phase II Group 1	Operating	Dry bottom wall-fired boiler	Coal	Residual Oil	
3	Table 1	Phase 1 Group 1	Operating	Tangentially-fired	Coal	Residual Oil	Dry Lime FGD

Columns: NOx Control(s), PM Control(s)

Record Number	NOx Control(s)	PM Control(s)
1		Electrostatic Precipitator
2		Electrostatic Precipitator
3	Low NOx Burner Technology w/ Closed-coupled OFA Selective Catalytic Reduction	Electrostatic Precipitator Baghouse



Emissions - Unit Level Data Report

Jul 24, 2014

Your query will return 1 Facility(s) and 3 Unit(s)

Program: Acid Rain Program (ARP)

Data Set: Emissions - Unit Level Data

Time Frame: Emissions :
Annual : 2010

Criteria: Facility Name/ID : Greenidge Generation LLC

Aggregate Criteria: No Aggregation (Unit Level)

Columns: State, Facility Name, Facility ID (ORISPL), Unit ID, Year, Associated Stacks, Program(s)

Record Number	State	Facility Name	Facility ID (ORISPL)	Unit ID	Year	Associated Stacks	Program(s)
1	NY	Greenidge Generation LLC	2527	4	2010	CSG003	ARP
2	NY	Greenidge Generation LLC	2527	5	2010	CSG003	ARP
3	NY	Greenidge Generation LLC	2527	6	2010		ARP

Columns: Operating Time, # of Months Reported, Gross Load (MW-h), Steam Load (1000lb), SO2 (tons), Avg. NOx Rate (lb/MMBtu), NOx (tons)

Record Number	Operating Time	# of Months Reported	Gross Load (MW-h)	Steam Load (1000lb)	SO2 (tons)	Avg. NOx Rate (lb/MMBtu)	NOx (tons)
1	0	6				0	
2	0	6				0	
3	8,303	12	605,629		448.9	0.2	561

ENCLOSURE 1

Columns: CO2 (short tons), Heat Input (MMBtu), EPA Region, County, Source Category, Owner, Operator

Record Number	CO2 (short tons)	Heat Input (MMBtu)	EPA Region	County	Source Category	Owner	Operator
1			2	Yates	Electric Utility	AES Corporation	AES Corporation
2			2	Yates	Electric Utility	AES Corporation	AES Corporation
3	599,104.7	5,838,307	2	Yates	Electric Utility	AES Corporation	AES Corporation

Columns: SO2 Phase, NOx Phase, Operating Status, Unit Type, Fuel Type (Primary), Fuel Type (Secondary), SO2 Control(s)

Record Number	SO2 Phase	NOx Phase	Operating Status	Unit Type	Fuel Type (Primary)	Fuel Type (Secondary)	SO2 Control(s)
1	Phase 2	Phase II Group 1	Operating	Dry bottom wall-fired boiler	Coal	Residual Oil	
2	Phase 2	Phase II Group 1	Operating	Dry bottom wall-fired boiler	Coal	Residual Oil	
3	Table 1	Phase 1 Group 1	Operating	Tangentially-fired	Coal	Residual Oil	Dry Lime FGD

Columns: NOx Control(s), PM Control(s)

Record Number	NOx Control(s)	PM Control(s)
1		Electrostatic Precipitator
2		Electrostatic Precipitator
3	Low NOx Burner Technology w/ Closed-coupled OFA Selective Catalytic Reduction	Electrostatic Precipitator Baghouse



Emissions - Unit Level Data Report

Jul 24, 2014

Your query will return 1 Facility(s) and 3 Unit(s)

Program: Acid Rain Program (ARP)

Data Set: Emissions - Unit Level Data

Time Frame: Emissions :
Annual : 2011

Criteria: Facility Name/ID : Greenidge Generation LLC

Aggregate Criteria: No Aggregation (Unit Level)

Columns: State, Facility Name, Facility ID (ORISPL), Unit ID, Year, Associated Stacks, Program(s)

Record Number	State	Facility Name	Facility ID (ORISPL)	Unit ID	Year	Associated Stacks	Program(s)
1	NY	Greenidge Generation LLC	2527	6	2011		ARP

Columns: Operating Time, # of Months Reported, Gross Load (MW-h), Steam Load (1000lb), SO2 (tons), Avg. NOx Rate (lb/MMBtu), NOx (tons)

Record Number	Operating Time	# of Months Reported	Gross Load (MW-h)	Steam Load (1000lb)	SO2 (tons)	Avg. NOx Rate (lb/MMBtu)	NOx (tons)
1	1,771	12	108,123		80.3	0.25	133.6

Columns: CO2 (short tons), Heat Input (MMBtu), EPA Region, County, Source Category, Owner, Operator

Record Number	CO2 (short tons)	Heat Input (MMBtu)	EPA Region	County	Source Category	Owner	Operator
1	113,357.5	1,104,780	2	Yates	Electric Utility	AES Corporation	AES Corporation

ENCLOSURE 1

Columns: SO2 Phase, NOx Phase, Operating Status, Unit Type, Fuel Type (Primary), Fuel Type (Secondary), SO2 Control(s)

Record Number	SO2 Phase	NOx Phase	Operating Status	Unit Type	Fuel Type (Primary)	Fuel Type (Secondary)	SO2 Control(s)
1	Table 1	Phase 1 Group 1	Operating	Tangentially-fired	Coal	Residual Oil	Dry Lime FGD

Columns: NOx Control(s), PM Control(s)

Record Number	NOx Control(s)	PM Control(s)
1	Low NOx Burner Technology w/ Closed-coupled OFA Selective Catalytic Reduction	Electrostatic Precipitator Baghouse



October 17, 2007

Mr. Thomas Marriott
RAPCE, Region 8
New York State Department of Environmental Conservation
6274 E. Avon-Lima Road
Avon, New York 14414-9519

Re: Greenidge Unit 4 MPC Project Status Update

Dear Tom:

We are writing to continue our coordination with the Department on the status of the Multi-Pollutant Control project being implemented at the AES Greenidge facility, Unit 4. As we have communicated to the Department, we have been working with our vendors and staff here at the plant to optimize the performance of the unit since the restart of the MPC-equipped unit in November, 2006.

By way of a short status summary regarding the emissions profile of Unit 4, the MPC equipment is performing to our expectations with respect to SO₂ emissions achieving an emissions rate of 0.19lbs/mmbtu or less across all loads above minimum. Acid gas and mercury removal has met project objectives. NO_x reductions remain more complicated than has been the case for other parameters. The hybrid SNCR/SCR NO_x control process is consistently able to achieve an emissions rate of 0.15 lbs/mmbtu at high loads. In addition, through our tuning efforts, we have been able to achieve the NO_x reduction potential of the system at lower loads than was initially anticipated. Because the system has operated successfully at lower loads, annual NO_x mass emissions reductions are expected to be consistent with project objectives. Despite our best efforts at optimizing the system for reductions, however, the unit is not able to achieve a 30 day rolling average NO_x emissions rate of 0.10 lbs/mmbtu without damaging the combustion system. We have been working closely with our vendors, have expended countless hours and significant sums to improve performance and continue to do so. Mr. Franc Grabar was here last week and received a first-hand account of our efforts. A short summary of some of the activities and tuning we have undertaken to date is attached.

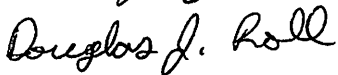
Unit 4 is one of the first commercial-scale hybrid SNCR/SCR retrofit applications. As we continue with our optimization efforts, and with an eye towards the various data we will be filing with the Department in 2008, we want to provide you and your colleagues with the opportunity to discuss our approach to NO_x and the MPC Project as a whole and receive your input. This includes meeting with the AES MPC Project team at the facility if you deem that advisable. We of course remain interested in your views and suggestions.

Mr. Thomas Marriott

Page Two

If this is of interest to you, or if you would otherwise like to discuss the project in additional detail, please contact me at (315) 536-2359 ext 3228.

Sincerely, 

for 

Douglas J. Roll
Plant Manager

cc: Michelle Crew, Esq. NYSDEC - Albany
Blaise Constantakes, Esq. NYSDEC - Albany
Mr. Franc Grabar NYSDEC – Region 8
Dewey & LeBoeuf, LLP



November 21, 2007

Mr. Thomas Marriott
RAPCE, Region 8
New York State Department of Environmental Conservation
6274 E. Avon-Lima Road
Avon, New York 14414-9519

Re: AES Greenidge Unit 4 MPC Project

Dear Tom:

We are writing in follow up to our meeting of October 29, 2007 regarding the MPC project for Unit 4. As has been communicated to the Department on various occasions, AES has spent the past year on efforts to modify the MPC project to achieve the emission limits in the Consent Decree ("Good Faith Efforts"). In accordance with the Consent Decree, we will be providing a final report/submittal to the Department by February, 2008 which will include final proposed NOx emission rates, supporting materials, and other information for Greenidge Unit 4. In the interim, with this letter we are providing you with additional information regarding the Good Faith Efforts.

As we discussed during our October 29 meeting, we are providing a NOx emissions rate curve based on our Good Faith Efforts (Attachment 1). We are also attaching to this letter a copy of a power point which was used to facilitate our discussion during the meeting in which we further detailed our Good Faith Efforts. (Attachment 2). This attachment, which also contains the curve in Attachment 1, was sent to the Department (Mr. Grabar) electronically on October 29. For the convenience of the Department, we are re-sending these documents so you can have them under one transmittal letter. The power point/presentation, in addition to my letter dated October 17 (Attachment 3), and other communications with the Department, details the activities we have undertaken and the progress we have made in satisfaction of our Good Faith Efforts obligations including to achieve a NOx emission rate of 0.10 lb/mmBTU on a 30-Operating-Day Rolling Average since we commenced Initial Operation in November, 2006. As has been discussed with the Department, the Good Faith Efforts include installation of additional equipment, optimization, testing, and operational adjustments.

For these Good Faith efforts, we have expended in excess of \$1,478,000 to achieve the NOx emission limit and to otherwise modify the NOx emission control systems identified in the Consent Decree. Because we have expended over \$1,478,000 on the Good Faith Efforts, and the total capital cost of the MPC Project is \$40,504,423, we have incurred capital expenditures in the aggregate in excess of 1% of the total capital cost of the MPC Project for Good Faith Efforts in accordance with pages 5, 12, and 13 of the Consent Decree. Attached (as Attachment 4), please find copies of invoices and other documentation of payments by AES for Good Faith Efforts expenditures. We will also be undertaking further, like expenditures, including completing

ENCLOSURE 2

upgrades to the air system and additional lime storage capacity. These further expenditures are not included in the \$1,478,000 calculation, and we expect them to total over approximately an additional \$580,000. Attachment 5 contains copies of invoices and payments for the MPC project capital costs so the Department can see the total capital cost of the MPC Project -- \$40,504,423.

As we discussed, the hybrid SNCR/SCR NOx control process is consistently able to achieve an emissions rate of 0.15 lbs/mmBtu for NOx at high loads. Despite our Good Faith Efforts to optimize the system for reductions, however, the unit is not able to achieve a 30-Operating-Day Rolling Average NOx emissions rate of 0.10 lbs/mmBtu. Nonetheless, because the NOx emissions control system has successfully operated at lower loads than anticipated, annual NOx mass emissions reductions are consistent with MPC project objectives.

As stated above, we will be preparing our final report/submittal, contemplated by the Consent Decree, to the Department which will include, among other things, NOx emission curves, a final proposed NOx emission rate and other supporting documentation. In the interim, we will continue to achieve a high load NOx emission rate between and including 0.10 and 0.15 lbs/mmBtu on a 30-Operating Day Rolling Average in accordance with the Consent Decree.

We look forward to continuing to work with the Department on the MPC Project and appreciate the time and efforts you and your colleagues have contributed to this process. Please feel free to contact me should you wish to discuss this matter further.

Sincerely,

A handwritten signature in black ink that reads "Douglas J. Roll". The signature is fluid and cursive, with the first name "Douglas" being more prominent and the last name "Roll" following in a similar style.

Douglas J. Roll
Plant Manager

cc: Michelle Crew
Blaise Constantakes
Franc Grabar
Dewey & LeBoeuf, LLP

ENCLOSURE 3

Facility name: **PSEG FOSSIL LLC HUDSON GENERATING STATION**

Program Interest Number: **12202**

Permit Activity Number: **BOP090002**

Air Pollution Control Operating Permit Renewal approved June 30, 2014, and which could be found at

http://datamine2.state.nj.us/DEP_OPRA/OpraMain/pdflist_handler?COUNT=1&PI_NUMBER=43857&ACTIVITY_CLASS_CODE=BOP&ACTIVITY_NUMBER=90002